

GGCAGGAGTCGGAGCCGGG

CGGAGGGAGGGGGAAAGAGGAGCGCAGGGTGAGAGTGAGCCGAGGCTTCGGGAGGCGAGGGGGGGGGGAGCAGC

GGCGAGGYCGCGCCTCCGCGCTCCGCGCCTAGGACTAGGGGGTGGGGGACGGACAAGCCCCCG ATG CCG GGG GAG

T E E P R P P E Q Q D Q E G E A A K A

ACG GAA GAG CCG AGA CCC CCG GAG CAG CAG GAC CAG GAA GGG GGA GAG GCG GCC AAG GCG

A P E E P Q Q R P P E A V A A P A G T

GCT CCG GAG GAG CCC CAA CAA CCG CCC CCT GAG GCG GTC GCG GCG CCT GCA GGG ACC

T S S R V L R G G R D R G A A A A A

ACT AGC AGC CGC GTG CTG AGG GGA GGT CCG GAC CGA GGC CCG GCT GCG GCC GCC GCC

A A A V S R R R K A E Y P R R R S S P

GCC GCA GCT GTG TCC CGC CGG AGG AAG GCC GAG TAT CCC CGC CGG CGG AGG AGC AGC CCC

S A R P P D V P G Q Q P Q A A K S P S P

AGC GCC AGG CCT CCC GAC GTC CCC GGG CAG CAG CCC CAG GCG AAG TCC CCG TCT CCA

V Q G K K S P R L L C I E K V T T D K D

GTT CAG GGC AAG AAG AGT CCG CGA CTC CTA TGC ATA GAA AAA GTA ACA ACT GAT AAA GAT

P K E E K E E D S A L P Q E V S I A

CCC AAG GAA GAA AAA GAG GAA GAC GAT TCT GCC CTC CCT CAG GAA GTT TCC ATT GCT

FIG.1A

2020029" T4229001

A S R P S R G W R S S R T S V S R H R D 164
GCA TCT AGA CCT AGC CGG GGC TGG CGT AGT AGT AGG ACA TCT GTT TCT CGC CAT CGT GAT 492

T E N T R S S R S K T G S L Q L I C K S 184
ACA GAG AAC ACC CGA AGC TCT CGG TCC AAG ACC GGT TCA TTG CAG CTC ATT TGC AAG TCA 552

E P N T D Q L D Y D V G E E H Q S P G G 204
GAA CCA AAT ACA GAC CAA CTT GAT TAT GAT GTT GGA GAA GAG CAT CAG TCT CCA GGT GGC 612

I S G E E E E E E E M L I S E E E I 224
ATT AGT GGT GAA GAG GAA GAG GAG GAA GAG ATG TTA ATC AGT GAA GAG GAG ATA 672

P F K D D P R D E T Y K P H L E R E T P 244
CCA TTC AAA GAT GAT CCA AGA GAT GAG ACC TAC AAA CCC CAC TTA GAA AGG GAA ACC CCA 732

K P R R K S G K V K E E K E K E I K V 264
AAG CCA CGG AGA AAA TCA GGG AAG GTA AAA GAA GAG AAG GAG AAG AAG GAA ATT AAA GTG 792

E V E V E V K E E E N E I R E D E E P P 284
GAA GTA GAG GTG GAG GTG AAA GAA GAG GAG AAT GAA ATT AGA GAG GAT GAG GAA CCT CCA 852

R K R G R R K D D K S P R L P K R R K 304
AGG AAG AGA GGA AGA AGA CGA AAA GAT GAC AAA AGT CCA CGT TTA CCC AAA AGG AGA AAA 912

K P P I Q Y V R C E M E G C G T V L A H 324
AAG CCT CCA ATC CAG TAT GTC CGT TGT GAG ATG GAA GGA TGT GGA ACT GTC CTT GCC CAT 972

FIG.1B

P	R	Y	L	Q	H	H	I	K	Y	Q	H	L	L	K	K	K	Y	V	C	344
CCT	CGC	TAT	TTG	CAG	CAC	CAC	ATT	AAA	TAC	CAG	CAT	TTG	CTG	AAG	AAG	AAA	TAT	GTA	TGT	1032
P	H	P	S	C	G	R	L	F	R	L	Q	K	Q	L	L	R	H	A	K	364
CCC	CAT	CCC	TCC	TGT	GGA	CGA	CTC	TTC	AGG	CTT	CAG	AAG	CAA	CTT	CTG	CGA	CAT	GCC	AAA	1092
H	H	T	D	Q	R	D	Y	I	C	E	Y	C	A	R	A	F	K	S	S	384
CAT	CAT	ACA	GAT	CAA	AGG	GAT	TAT	ATC	TGT	GAA	TAT	TGT	GCT	CGG	GCC	TTC	AAG	AGT	TCC	1152
H	N	L	A	V	H	R	M	I	H	T	G	E	K	P	L	Q	C	E	I	404
CAC	AAT	CTG	GCA	GTG	CAC	CGG	ATG	ATT	CAC	ACT	GGC	GAG	AAG	CCA	TTA	CAA	TGT	GAG	ATC	1212
C	G	F	T	C	R	Q	K	A	S	L	N	W	H	M	K	K	H	D	A	424
TGT	GGA	TTT	ACT	TGT	CGA	CAA	AAG	GCA	TCT	CTT	AAT	TGG	CAC	ATG	AAG	AAA	CAT	GAT	GCA	1272
D	S	F	Y	Q	F	S	C	N	I	C	G	K	K	F	E	K	K	D	S	444
GAC	TCC	TTC	TAC	CAG	TTT	TCT	TGC	AAT	ATC	TGT	GGC	AAA	AAA	TTT	GAG	AAG	AAG	GAC	AGC	1332
V	V	A	H	K	A	K	S	H	P	E	V	L	I	A	E	A	L	A	A	464
GTA	GTG	GCA	CAC	AAG	GCA	AAA	AGC	CAC	CCT	GAG	GTG	CTG	ATT	GCA	GAA	GCT	CTG	GCT	GCC	1392
N	A	G	A	L	I	T	S	T	D	I	L	G	T	N	P	E	S	L	T	484
AAT	GCA	GGC	GCC	CTC	ATC	ACC	AGC	ACA	GAT	ATC	TTG	GGC	ACT	AAC	CCA	GAG	TCC	CTG	ACG	1452
Q	P	S	D	G	Q	G	L	P	L	L	P	E	P	L	G	N	S	T	S	504
CAG	CCT	TCA	GAT	GGT	CAG	GGT	CTT	CCT	CTT	CTT	CCT	GAG	CCC	TTG	GGA	AAC	TCA	ACC	TCT	1512

FIG. 1C

G E C L L L E A E G M S K S Y C S G T E 524
 GGA GAG TGC CTA CTG TTA GAA GCT GAA GGG ATG TCA AAG TCA TAC TGC AGT GGG ACG GAA 1572

R V S L M A D G K I F V G S G S G G T 544
 CGG GTG AGC CTG ATG GCT GAT GGG AAG ATC TTT GTG GGA AGC GGC AGC AGT GGA GGC ACT 1632

E G L V M N S D I L G A T T E V L I E D 564
 GAA GGG CTG GTT ATG AAC TCA GAT ATA CTC GGT GCT ACC ACA GAG GTT CTG ATT GAA GAT 1692

S D S A G P * 570
 TCA GAC TCT GCC GGA CCT TAG TGGACAGGAAGACTTGGGGCATGGGACAGCTCAGACTTTTGATTTTAAAGT 1761

TAAAAAGGACAAAAA
 1791

FIG.1D

FIG. 2A

T A C L L L P G R L D C R L G P G A P A	142
ACC GCG TGC CTC CTG CTG CCC GGC CGC CTG GAC TGC AGG CTG GGC CCG GGC GCG CCC GCC	426
G A Q P A Q P P S S Y S L P L L C K V	162
GGC GCG CAG CCT GCG CAG CCG CCC TCG TCC TAC TCG CTC CCC CTC CTG TGC AAA GTG	486
F R W P D L R H S S E V K R L C C C E S	182
TTC AGG TGG CCG GAT CTC AGG CAT TCC TCG GAA GTC AAG AGG CTG TGT TGC TGT GAA TCT	546
Y G K I N P E L V C C N P H H L S R L C	202
TAC GGG AAG ATC AAC CCC GAG CTG GTG TGC TGC AAC CCC CAT CAC CTT AGC CGA CTC TGC	606
E L E S P P P P Y S R Y P M D F L K P T	222
GAA CTA GAG TCT CCC CCC CCT CCT TAC TCC AGA TAC CCG ATG GAT TTT CTC AAA CCA ACT	666
A D C P D A V P S S A E T G G T N Y L A	242
GCA GAC TGT CCA GAT GCT GTG CCT TCC TCC GCT GAA ACA GGG GGA ACG AAT TAT CTG GCC	726
P G G L S D S Q L L L E P G D R S H W C	262
CCT GGG GGG CTT TCA GAT TCC CAA CTT CTT CTG GAG CCT GGG GAT CGG TCA CAC TGG TGC	786
V V A Y W E E K T R V G R L Y C V Q E P	282
GTG GTG GCA TAC TGG GAG GAG AAG ACG AGA GTG GGG AGG CTC TAC TGT GTC CAG GAG CCC	846
S L D I F Y D L P Q G N G F C L G Q L N	302
TCT CTG GAT ATC TTC TAT GAT CTA CCT CAG GGG AAT GGC TTT TGC CTC GGA CAG CTC AAT	906

FIG.2B

20200207 14:24:00

S D N K S Q L V Q K V R S K I G C G I Q 322
TCG GAC AAC AAG AGT CAG CTG GTG CAG AAG GTG CGG AGC AAA ATC GGC TGC GGC ATC CAG 966

L T R E V D G V W V Y N R S S Y P I F I 342
CTG ACG CGG GAG GTG GAT GGT GTG TGG GTG TAC AAC CGC AGC AGT TAC CCC ATC TTC ATC 1026

K S A T L D N P D S R T L L V H K V F P 362
AAG TCC GCC ACA CTG GAC AAC CCT GAC TCC AGG ACG CTG TTG GTA CAC AAG GTG TTC CCC 1086

G F S I K A F D Y E K A Y S L Q R P N D 382
GGT TTC TCC ATC AAG GCT TTC GAC TAC GAG AAG GCG TAC AGC CTG CAG CGG CCC AAT GAC 1146

H E F M Q Q P W T G F T V Q I S F V K G 402
CAC GAG TTT ATG CAG CAG CCG TGG ACG GGC TTT ACC GTG CAG ATC AGC TTT GTG AAG GGC 1206

W G Q C Y T R Q F I S S C P C W L E V I 422
TGG GGT CAG TGC TAC ACC CGC CAG TTC ATC AGC AGC TGC CCG TGC TGG CTA GAG GTC ATC 1266

F N S R * 426
TTC AAC AGC CGG TAG CCGGTGCGGAGGGGACAGAGCGTGAGCTGAGCAGGCCACACTTCAAACACTTTTGCT 1278

GCTAATAATTTTCCTCCTGAGTGCTTTTCATGCAAACTCTTTGGTCTTTTTTTTTTTTGTGTGGTGGTTTTCT
TCTTCTCGTCTCGTTTGTGTTCTGTTTGTTCGCTCTTTGAGAAATAGCTTATGAAAAGAAATTGTGGGGTTTTTT
TGGAAGAAGGGGCAGGTATGATCGGCAGGACACCCTGATAGGAAGAGGGGAAGCAGAAATCCAAGCACCCACCAACACACA

FIG. 2C

203020" 1449001

GTGTATGAAGGGGGCGGTCAATTTCACTTGTGAGAGTGTGTGAGTGTGAGTGTGCGGCTGTGTGTGCACGGGT
GTGCAGGAGCGGCAGATGGGAGACAACGTGCTCTTTGTTTGTGTCTCTTATGGATGTCCCCAGCAGAGAGGTTTGCA
GTCCCAAGCGGTGTCTCTCTGCCCTTGGACACGCTCAGTGGGGCAGAGGCAGTACCTGGGCAAGCTGGCGGCTGGGG
TCCCAGCAGCTGCCAGGAGCAGGGCTCTGTCCCCAGCTGGGAAAGCCCTGCCCTCCTCTCCCTCATCAAGGACACG
GGCCTGTCCACAGGCTTCTGAGCAGGAGCCTGCTAGTGGCCGACCAACCAATATTTTCATCCTTGCTTATTCC
CTTCCTGCCAGCCCCCTGCCATTGTAGGCTCTTCTTTTTGGCCATCTGCTCCTGGATCTCCCTGAGATGGGCTTCCCA
AGGGCTGCCGGGCGAGCCCCCTCACAGTATTGCTACCCAGTGCCCTCTCCCCTCAGCCTCTCCCCTGCCCTGGT
GACATCAGGTTTTTCCGGACTTAGAAAAACCAGCTCAGCACTGCCTGCTCCCATCCTGTGTGTTAAGCTCTGCTATTAG
GCCAGCAAGCGGGA TGTCCTGGGAGGACATGCTTAGCAGTCCCCCTCCCTCCAAGAAGGATTTGGTCCGTCAAC
CCAAGGTACCATCCTAGGCTGACACCTAACTCTTCTTTCAATTTCTTCTACAACCTACACTCGTATGATACTTCGACA
CTGTTCTTAGCTCAATGAGCATGTTTAGACTTTAACATAAGCTATTTTTCTAACTACAAAGGTTTAAATGAACAAGAGA
AGCATTCTCATTTGGAAATTTAGCATTGTAGTGCTTTGAGAGAGAAAGGACTCCTGAAAAAACCCTGAGATTTATTAAA
GAAAAAATGTATTTTATGTATATAAATATATTATTACTTGTAATATATAAAGACGTTTTTATAAGCATCATTATTTA

FIG.2D

208020" T42500T

TGTATTGTGCAATGTGTATAACAAGAAAAATAAAGAAAAGATGCACCTTTGCTTTAATAATAAATGCAAAATAACAAATGC
CAAATTAAAAAAGATAAACACAAGATTGGTGTTTTTTCCTATGGGTGTTATCACCTAGCTGAATGTTTTCTAAAGGAG
TTTATGTTCCATTAAACGATTTTTTAAAAATGTACACTTGAAAAAATAAAAAAAAAA

FIG. 2E

2008020" T422900T

```
GGCACGAGGTTGCCCTGGCGGAGCAGAGACAGGCCCTCGGGGTGGAGGTC
      M C N T P T Y C D L
TTTGGTTTCATAAGCCTGAGAGAGATTTTCTAAGAT ATG TGT AAC ACA CCA ACG TAC TGT GAC CTA
G K A A K D V F N K G Y G F G M V K I D
GGA AAG GCT GCT AAG GAT GTC TTC AAC AAA GGA TAT GGC TTT GGC ATG GTC AAG ATA GAC
L K T K S C S G V E F S T S G H A Y T D
CTG AAA ACC AAG TCT TGT AGT GGA GTG GAA TTT TCT ACT TCT GGT CAT GCT TAC ACT GAT
T G K A S G N L E T K Y K V C N Y G L T
ACA GGG AAA GCA TCA GGC AAC CTA GAA ACC AAA TAT AAG GTC TGT AAC TAT GGA CTT ACC
F T Q K W N T D N T L G T E I S W E N K
TTC ACC CAG AAA TGG AAC ACA GAC AAT ACT CTA GGG ACA GAA ATC TCT TGG GAG AAT AAG
L A E G L K L T L D T I F V P N T G K K
TTG GCT GAA GGG TTG AAA CTG ACT CTT GAT ACC ATA TTT GTA CCG AAC ACA GGA AAG AAG
S G K L K A S Y K R D C F S V G S N V D
AGT GGG AAA TTG AAG GCC TCC TAT AAA CGG GAT TGT TTT AGT GTT GGC AGT AAT GTT GAT
I D F S G P T I Y G W A V L A F E G W L
ATA GAT TTT TCT GGA CCA ACC ATC TAT GGC TGG GCT GTG TTC GGC TTC GAA GGG TGG CTT
```

FIG.3A

A	G	Y	Q	M	S	F	D	T	A	K	S	K	L	S	Q	N	N	F	A		170
GCT	GGC	TAT	CAG	ATG	AGT	TTT	GAC	ACA	GCC	AAA	TCC	AAA	CTG	TCA	CAG	AAT	AAT	TTC	GCC		510
L	G	Y	K	A	A	D	F	Q	L	H	T	H	V	N	D	G	T	E	F		190
CTG	GGT	TAC	AAG	GCT	GCG	GAC	TTC	CAG	CTG	CAC	ACA	CAT	GTG	AAC	GAT	GGC	ACT	GAA	TTT		570
G	G	S	I	Y	Q	K	V	N	E	K	I	E	T	S	I	N	L	A	W		210
GGA	GGT	TCT	ATC	TAC	CAG	AAG	GTG	AAT	GAG	AAG	ATT	GAA	ACA	TCC	ATA	AAC	CTT	GCT	TGG		630
T	A	G	S	N	N	T	R	F	G	I	A	A	K	Y	M	L	D	C	R		230
ACA	GCT	GGG	AGT	AAC	AAC	ACC	CGT	TTT	GGC	ATT	GCT	GCT	AAG	TAC	ATG	CTG	GAT	TGT	AGA		690
T	S	L	S	A	K	V	N	N	A	S	L	I	G	L	G	Y	T	Q	T		250
ACT	TCT	CTC	TCT	GCT	AAA	GTA	AAT	AAT	GCC	AGC	CTG	ATT	GGA	CTG	GGT	TAT	ACT	CAG	ACC		750
L	R	P	G	V	K	L	T	L	S	A	L	I	D	G	K	N	F	S	A		270
CTT	CGA	CCA	GGA	GTC	AAA	TTG	ACT	TTA	TCA	GCT	TTA	ATC	GAT	GGG	AAG	AAC	TTC	AGT	GCA		810
G	G	H	K	V	G	L	G	F	E	L	E	A	*								283
GGA	GGT	CAC	AAG	GTT	GGC	TTG	GGA	TTT	GAA	CTG	GAA	GCT	TAA	TGT	GTTTG	GAGGA	AAGCAT	CAGA			849
TTT	GTC	CCT	GGA	AGT	GAAG	AAAT	GT	TAAT	CCTCCC	CACACT	GAAGT	CTAG	GGGTT	GCGAAT	CCCTCCT	GAGGG	GAGAC	GCCT			
TTTT	GTC	CCT	GGA	AGT	GAAG	AAAT	GT	TAAT	CCTCCC	CACACT	GAAGT	CTAG	GGGTT	GCGAAT	CCCTCCT	GAGGG	GAGAC	GCCT			
GAAGG	CAT	GCCT	GGA	AGT	GT	GCAT	GT	TTT	GTC	CACG	TTT	CAGT	TCAG	TTCT	GAA	GT	TATTA	ATG	TTC	CAGCG	

FIG. 3B

20200207 14:50:07

ACAGGTAGCGTCATGTTAGAGGAGACGATCTGACCCACCAGTTTGTACATCACGTCCTGCATGTCCCACACCATTTTT
TCATGACCTTGTAATATACTGGTCTCTGTGCTATAGTGAATCTTTGGTTTTGCATCATAGTAAAAATAAACCCCA
TCACATTTGGAACATAAAAAAAAAAAAAAAAAAAAA

FIG.3C

T S L A L V L N L L Q I Q R N V T L F P 20
ACG AGC CTA GCC CTG GTG CTC AAC CTG CTG CAG ATC CAG AGG AAT GTC ACT CTC TTC CCC 60

E E V I A T I F S S A W V P P C C G T 40
GAG GAG GTG ATC GCC ACC ATC TTT TCC TCC GCC TGG GTC CCT CCC TGC TGC GGC ACA 120

A A V V G L L Y P C I D S H L G E P H 60
GCA GCT GCT GTT GGT GGC CTA CTG TAC CCC TGT ATC GAC AGT CAC CTC GGA GAA CCC CAC 180

K F K R E W A S V M R C I A V F V G I N 80
AAA TTT AAG AGA GAA TGG GCC AGT GTC ATG CGC TGC ATA GCA GTT TTT GTT GGC ATT AAC 240

H A S A K L D F A N N V Q L S L T L A A 100
CAC GCC AGT GCT AAA TTG GAT TTT GCC AAT AAT GTC CAG CTG TCC TTG ACT TTA GCA GCC 300

L S L G L W W T F D R S R S G L G L G I 120
CTA TCT TTG GGC CTT TGG TGG ACA TTT GAT CGT TCC AGA AGT GGC CTT GGC CTG GGC ATC 360

T I A F L A T L I T Q F L V Y N G V Y Q 140
ACC ATA GCT TTT CTA GCT ACG CTG ATC ACG CAG TTT CTC GTG TAT AAT GGT GTC TAT CAG 420

Y T S P D F L Y I R S W L P C I F F S G 160
TAT ACA TCC CCA GAT TTC CTC TAT ATT CGT TCT TGG CTC CCT TGT ATA TTT TTC TCA GGA 480

G V T V G N I G R Q L A M G V P E K P H 180
GGC GTC ACG GTG GGC AAC ATA GGA CGA CAG TTA GCT ATG GGT GTT CCT GAA AAG CCC CAT 540

FIG.4A

FIG. 4B

203020" P44900T

M C H S R S C H P T M T I L Q A P T P A 20
ATG TGT CAC TCT CGC AGC TGC CAC CCG ACC ATG ACC ATC CTG CAG GCC CCG ACC CCG GCC 60

P S T I P G P R R G S G P E I F T F D P 40
CCC TCC ACC ATC CCG GGA CCC CCG CCG GGC TCC GGT CCT GAG ATC TTC ACC TTC GAC CCT 120

L P E P A A A P A G R P S A S R G H R K 60
CTC CCG GAG CCC GCA GCG GCC CCT GCC GGG CGC CCC AGC GCC TCT CGC GGG CAC CGA AAG 180

R S R R V L Y P R V V R R Q L P V E E P 80
CGC AGC CGC AGG GTT CTC TAC CCT CGA GTG GTC CGG CGC CAG CTG CCA GTC GAG GAA CCG 240

N P A K R L L F L L L T I V F C Q I L M 100
AAC CCA GCC AAA AGG CTT CTC TTT CTG CTG CTC ACC ATC GTC TTC TGC CAG ATC CTG ATG 300

A E E G V P A P L P P E D A P N A A S L 120
GCT GAA GAG GGT GTG CCG GCG CCC CTG CCT CCA GAG GAC GCC CCT AAC GCC GCA TCC CTG 360

A P T P V S P V L E P F N L T S E P S D 140
GCG CCC ACC CCT GTG TCC CCC GTC CTC GAG CCC TTT AAT CTG ACT TCG GAG CCC TCG GAC 420

Y A L D L S T F L Q Q H P A A F * 157
TAC GCT CTG GAC CTC AGC ACT TTC CTC CAG CAA CAC CCG GCC GGC TTC TAA 471

CTGTGACTCCCGCACTCCCAAAAGAATCCGAAAACCAACAAAGAACACAGGCGTACCTGGTGGCGGAGAGCGTA 550

FIG.5A

TCCCAACTGGGACTTCGAGGCAACTTGAACCTCAGAACACTACAGCGGAGACGCCACCCGGTGCTTGAGGGGGACCG	629
AGGCGCACAGAGACCGAGGGCGCATAGAGACCGAGGCACAGCCAGCTGGGGCTAGGCCCGGTGGGAAGGAGAGCGTCGT	708
TAATTTATTTCTTATTGCTCCTAATTAATATTATATATGTAATTTATGTACGTCCTCCTAGGTGATGGAGATGTGTACGTA	787
ATATTTATTTTAACTTATGCAAGGGTGTGAGATGTTCCCTCTGCTGTAAATGCAGGTCCTCTGGTATTTATTGAGCTTT	866
GTGGGACTGGTGGAAGCAGGACACCTGGAACTGCGGCAAGTAGGAGAAGAAATGGGGAGGACTCGGGTGGGGGAGGAC	945
GTCCCGGCTGGGATGAAGTCTGGTGGTGGTAAAGTTTAGGAGGTGACTGCATCCTCCAGCATCTCAACTCCGTCCTG	1024
TCTACTGTGTGAGACTTCGGCGGACCAATTAGGAATGAGATCCGTGAGATCCTTCCATCTTCTTGAAGTCGCCCTTTAGGG	1103
TGGCTGCGAGGTAGAGGGTTGGGGGTTGGTGGGCTGTCACGGAGCGACTGTCGAGATCGCCTAGTATGTTCTGTGAACA	1182
CAAAATAAATTGATTTACTGTCAAAAAAAAAAAAAAACTCGAG	1228

FIG. 5B

GAATTGGCACGAGMCAGGAGCTCCTTTWCTGCGTCTCCCATCATGGGGCTTAGGGTTGAGTCTTCA 68
GGTTCGGGGCAGGAAGGACGGGCACTCAGGAGCCCCCTCCCCATCCACAGCCCCTCTTTGGGAGGGGGAAACTTG 147
GCAACCCGGGAGGCATGTGGATCTTTTCCTAAGCAAGATGCTGAGCTGGAAAGATGGGGGTGAAGGTAATGTCCCAA 226
CTGAAACTTTGCCAGGCACCTGGGAGAGGCTGTGAACCTCTTTCTGGCTTTAGAAATTTAGGTCTAGATCCCAAAGGCTA 305
AGTACCCCTGGGGCTAACCCAGAGGCATGCCTGGGCTGAGCTGAACCTTCTGGTGCACTGGCCCCCTGGCTGACTGCTC 384
TTCTGCAGGAAGTTGGAGGAGATTCTCTGAAGTTGATTCTCAGGCTGGATGTCCAAAGGGGTTGGAGTTCTTGATGTCT 463
TTCTGTCCCTCTCTTTTCTCTCCCTACCAGGTCACCTTCTTTTCAGAGGGGCCCTGCGGTGCTCTAAAGTTCTC 542
CTGTTAAAGTTTAGAGCAAAATTGGTTATTAATTTAAATCAAATAAACTTTTAAAAGTACTAAGACAACCTTCTAAGAGG 621
GGAGTGGACAGAGGGCCTGGTGGCAGCTCACAGTTTCTTTTCTGACCTTTTGGTCTCACCCACCAAGTGTCCACCTGAG 700
TGCCACCTTGCCACCTGAGGTAATGCCCTGGGGCTCCACCAGTCCAGATCCACAGGGCGCAGCCATGTGGGAGTGGC 779
GGCTGATTGTACCCAGTAGTGTGATAGCACATTATTATACAGCCCAAGAGAGGAAGCAACCCAAATGTCCATTAG 858
CTGATAAATGGATAAATGAAATATGGTACGTCCGAAGAAATGGAATATCATTTACCCCTGAAAAAAGAACGAAGTCCAGCA 937
CCAAACGTGCTACAACATGGATGAACCTTCGATGACTTTGTGCCACATGAAAGAAGAGCCAGCCACAAAAGGCCATAT 1016

FIG. 6A

M	S	R	M	G	K	P	I	E	T	Q	K	S	P	P	16			
ATTGTATGAAATGAA	ATG	TCC	AGA	ATG	GGC	AAA	CCC	ATA	GAG	ACA	CAA	AAA	TCT	CCG	CCA	CCT	1079	
P	Y	S	R	L	S	P	R	D	E	Y	K	P	L	D	L	S	D	36
CCC	TAC	TCT	CGG	CTG	TCT	CCT	CGC	GAC	GAG	TAC	AAG	CCA	CTG	GAT	CTG	TCC	GAT	1139
L	S	Y	T	E	T	E	A	T	N	S	L	I	T	A	P	G	E	56
TTG	TCT	TAC	ACT	GAA	ACG	GAG	GCT	ACC	AAC	TCC	CTC	ATC	ACT	GCT	CCG	GGT	GAA	1199
D	A	S	M	S	P	D	A	T	K	P	S	H	W	C	S	V	A	76
GAC	GCC	AGC	ATG	TCT	CCG	GAC	GCC	ACC	AAG	CCG	AGC	CAC	TGG	TGC	AGC	GTG	GCG	1259
E	H	R	T	R	V	G	R	L	Y	A	V	Y	D	Q	A	V	S	96
GAG	CAC	CGG	ACG	CGC	GTG	GGC	CGC	CTC	TAT	GCG	GTG	TAC	GAC	CAG	GCC	GTC	AGC	1319
Y	D	L	P	Q	G	S	G	F	C	L	G	Q	L	N	L	E	Q	116
TAC	GAC	CTA	CCT	CAG	GGC	AGC	GGC	TTC	TGC	CTG	GGC	CAG	CTC	AAC	CTG	GAG	CAG	1379
E	S	V	R	R	T	R	S	K	I	G	F	G	I	L	L	S	K	136
GAG	TCG	GTG	CGG	CGA	ACG	CGC	AGC	AAG	ATC	GGC	TTC	GGC	ATC	CTG	CTC	AGC	AAG	1439
D	G	V	W	A	Y	N	R	G	E	H	P	I	F	V	N	S	P	156
GAC	GGC	GTG	TGG	GCC	TAC	AAC	CGC	GGC	GAG	CAC	CCC	ATC	TTC	GTC	AAC	TCC	CCG	1499
D	A	P	G	G	R	A	L	V	V	R	K	V	P	P	G	Y	S	176
GAC	GCG	CCC	GGC	GGC	CGC	GCC	CTG	GTC	GTG	CGC	AAG	GTG	CCC	CCC	GGC	TAC	TCC	1559

FIG.6B

V F D F E R S G L Q H A P E P D A A D G 196
 GTG TTC GAC TTC GAG CGC TCG GGC CTG CAG CAC GCG CCC GAG CCC GAC GCC GGC GAC GGC 1619

P Y D P N S V R I S F A K G W G P C Y S 216
 CCC TAC GAC CCC AAC AGC GTC CGC ATC AGC TTC GCC AAG GGC TGG GGC CCC TGC TAC TCC 1679

R Q F I T S C P C W L E I L L N N P R • 236
 CGG CAG TTC ATC ACC TCC TGC CCC TGC TGG CTG GAG ATC CTC AAC AAC CCC AGA TAG 1739

TGGCGCCCGGGAGGGGGTGGAGGGCGGGCCGCCACCGCCACCTGCCGGCCTCGAGAGGGGGCGGATGCCCAGA 1818

GACACAGCCCCCAGACAAAACCCCCAGATATCATCTACCTAGATTAAATATAAAGTTTTATATATTATATGGAAT 1897

ATATATTACTTGTAAATTATGGAGTCATTTTACAATGTAATTATTTATGTAATGGTGCAATGTGTATATGGACAAA 1976

ACAAAGAAAGACGCACCTTTGGCTTATAATTCTTCAATACAGATAATTTCTTCTCTCTCTCTCTCTCTCTCTTACT 2055

TTTTATATATATATAAAGAAAAATGATACAGCAGAGCTAGGTGGAAAAGCCTGGGTTTGGTGATGGTTTTTGAGATA 2134

TTAATGCCCAGACAAAAAGCTAATACCAGTCACTCGATAATAAAGTATTCGCATTATAGTTTTTTTAAACTGCTTCT 2213

TTTTACAAAGAGGGGCAGGTAGGGCTTCAGCGGATTTCTGACCCATCSTGTACCTTGAAACTTGACCTCAGTTTCAAG 2292

TTTTACTTTTATTGGATAAAGACAGAACAAAATTGAAAAGGGAGGAAAGTCACATTTACTCTTAAGTAAACCAGAGAAAG 2371

FIG.6C

TTCTGTTGTTCCCTGCCCCATGGCTATGGGGTGTCCAGTGGATAGGGATGGCGGTGGGGAAAAGGAGAATACACTGG 2450

CCATTTATCCTGGACAAGCTCTTCCAGTCTGATGGAGGAGGTTTCATGCCCTAGCCTAGAAAGGCCCCAGGTCCATGACCC 2529

CCATCTTTGAGTTATGAGCAAGCTAAAAGAAGACACTATTTCTCACCATTTTGTGGAATGGCCTGGGGAAACAAAGACT 2608

GAAATGGGCCCTTGAGCCCCACCTGCTACCTTGCAGAGAACCATCTCGAGCCCCGTAGATCTTTTATAGGACCTCCACAGGC 2687

TATTTCCACCCCCAGCCCAAAAATAGCTCAGAATCTGCCCCATCCAGGGCTGTATTAATGATTTATGTAAAGGCAGATG 2766

GTTTATTTCTACTTTGTAAAAGGGAAAAGTTGAGGTTCTGGAAGGATAAATGATTTGCTCATGAGACAAAAATCAAGGTT 2845

AGAAAGTTACATGGAATTGTAGGACCAGAGCCATATCATTAGATCAGCTTTCTGAAGAATATTCTCMAAAAAAGAAAAGTC 2924

TCCTTGGCCAGATAACTAAGAGGAATGTTTCATTGTATATCTTTTCTTGGAGATTTATATTAAACATATTAAAGTGCTC 3003

TGAGAAGTCCTGTGTATTATCTCTTGCTGCATAATAAATTATCCCCAAACTTAAAAAATAAAAAAAAAAAAAAACTCGA 3082

G 3083

FIG. 6D

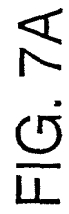


FIG. 7B



FIG. 7C

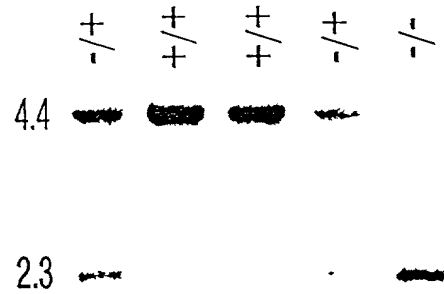
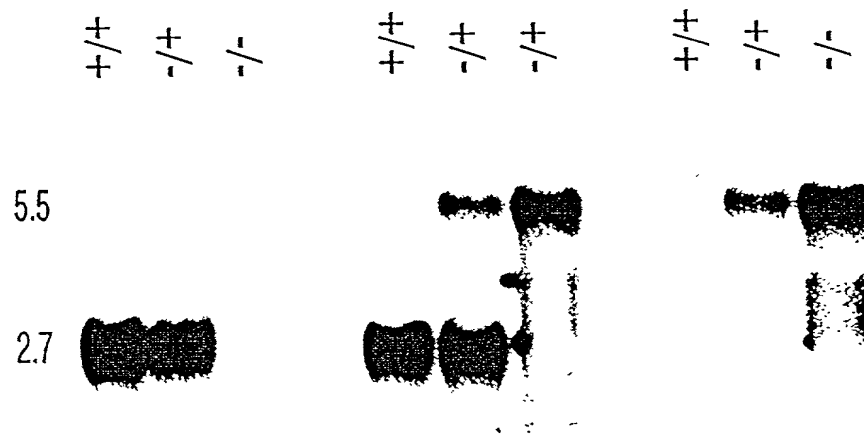
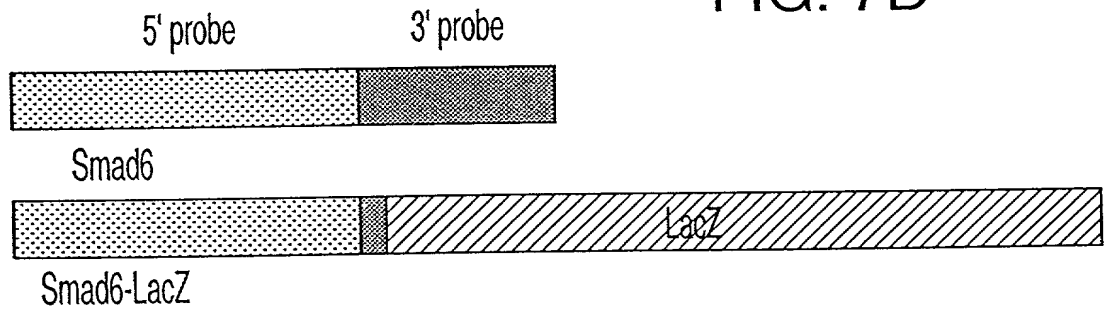


FIG. 7D



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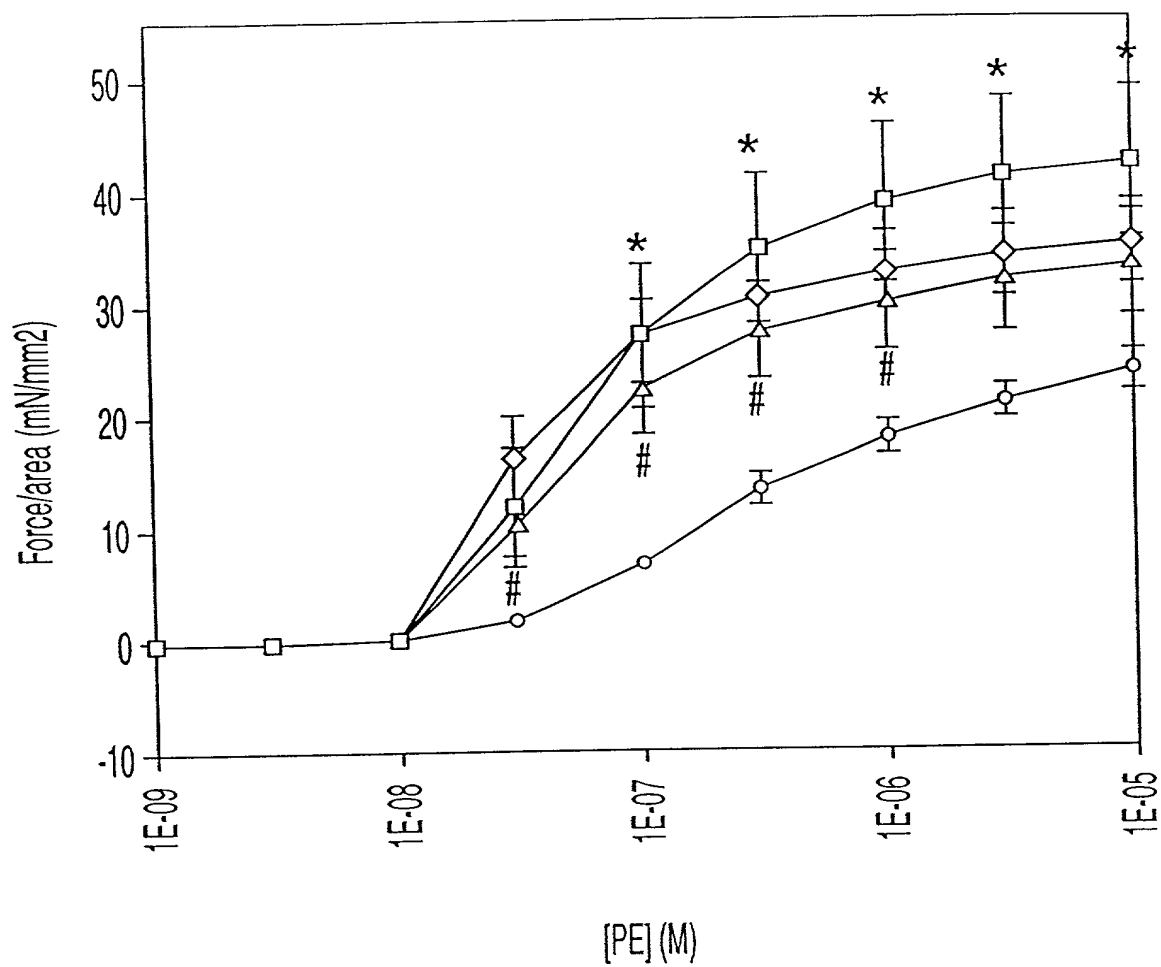


FIG. 8

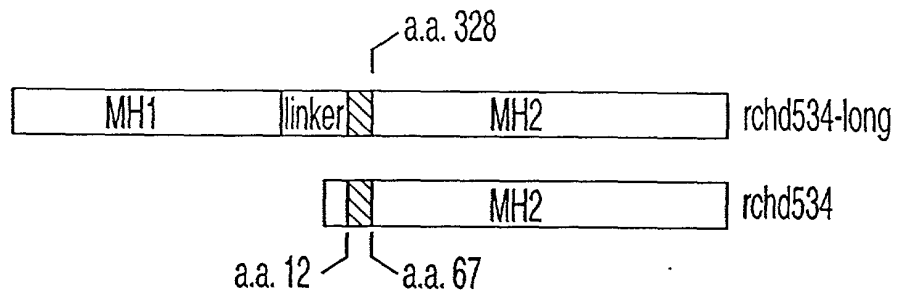


FIG. 9

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CCCCTCGCTGAGGGAACGGACCCCGGTAACCGGAGACCGCCTTCCCCCCCACCCCTGGCGCCAAAGGATATCGT	M	1
ATG		157
F R S K R S G L V R R L W R S R V V P D		21
TTC AGG TCC AAA CGC TCG GGG CTG GTG CGG CGA CTT TGG CGA AGT CGT GTG GTC CCC GAC		217
R E E G G S G G G G G G D E D G S L G S		41
CGG GAG GAA GGC GCC AGC GGC GGC GGT GGC GGC GAC GAG GAT GGG AGC TTG GGC AGC		277
R A E P A P R A R E G G G C G R S E V R		61
CGA GCT GAG CCG GCC CCG CGG GCA AGA GAG GGC GGA GGC TGC GGC CGC TCC GAA GTC CGC		337
P V A P R R P R D A V G Q R G A Q G A G		81
CCG GTA GCC CCG CGG CGG CCC CGG GAC GCA GTG GGA CAG CGA GGC GCC CAG GGC CCG GGG		397
R R R R A G G P P R P M S E P G A G A G		101
AGG CGC CGG CGC GCA GGG GGC CCC CCG AGG CCC ATG TCG GAG CCA GGG GCC GGC GCT GGG		457
S S L L D V A E P G G P G W L P E S D C		121
AGC TCC CTG CTG GAC GTG GCG GAG CCG GGA GGC CCG GGC TGG CTG CCC GAG AGT GAC TGC		517
E T V T C C L F S E R D A A G A P R D A		141
GAG ACG GTG ACC TGC TGT CTC TTT TCG GAG CGG GAC GCC GCC GGC GCG CCC CGG GAC GCC		577
S D P L A G A A L E P A G G G R S R E A		161
AGC GAC CCC CTG GCC GGG GCG GCC CTG GAG CCG GCG GGC GGC GGG CGG AGT CGC GAA GCG		637
R S R L L L L E Q E L K T V T Y S L L K		181
CGC TCG CGG CTG CTG CTG CTG GAG CAG GAA CTC AAA ACC GTC ACG TAC TCG CTG CTG AAG		697
R L K E R S L D T L L E A V E S R G G V		201
CGG CTC AAG GAG CGC TCG CTG GAC ACG CTG CTG GAG GCG GTG GAG TCC CGC GGC GGC GTG		757
P G G C V L V P R A D L R L G G Q P A P		221
CCG GGC GGC TGC GTG CTG GTG CCG CGC GCC GAC CTC CGC CTG GGC GGC CAG CCC GCG CCG		817
P Q L L L G R L F R W P D L Q H A V E L		241
CCG CAG CTG CTG CTC GGC CGC CTC TTT CGC TGG CCC GAC CTG CAG CAC GCC GTG GAG CTG		877
K P L C G C H S F A A A A D G P T V C C		261
AAG CCC CTG TGC GGC TGC CAC AGC TTC GCC GCC GCC GCC GAC GGC CCT ACC GTG TGC TGC		937
N P Y H F S R L C G P E S P P P P Y S R		281
AAC CCC TAC CAC TTC AGC CGG CTC TGC GGG CCC GAA TCT CCG CCA CCT CCC TAC TCT CGG		997
L S P R D E Y K P L D L S D S T L S Y T		301
CTG TCT CCT CGC GAC GAG TAC AAG CCA CTG GAT CTG TCC GAT TCC ACA TTG TCT TAC ACT		1057

FIG. 10A

E T E A T N S L I T A P G E F S D A S M 321
GAA ACG GAG GCT ACC AAC TCC CTC ATC ACT GCT CCG GGT GAA TTC TCA GAC GCC AGC ATG 1117

S P D A T K P S H W C S V A Y W E H R T 341
TCT CCG GAC GCC ACC AAG CCG AGC CAC TGG TGC AGC GTG GCG TAC TGG GAG CAC CGG ACG 1177

R V G R L Y A V Y D Q A V S I F Y D L P 361
CGC GTG GGC CGC CTC TAT GCG GTG TAC GAC CAG GCC GTC AGC ATC TTC TAC GAC CTA CCT 1237

Q G S G F C L G Q L N L E Q R S E S V R 381
CAG GGC AGC GGC TTC TGC CTG GGC CAG CTC AAC CTG GAG CAG CGC AGC GAG TCG GTG CGG 1297

R T R S K I G F G I L L S K E P D G V W 401
CGA ACG CGC AGC AAG ATC GGC TTC GGC ATC CTG CTC AGC AAG GAG CCC GAC GGC GTG TGG 1357

A Y N R G E H P I F V N S P T L D A P G 421
GCC TAC AAC CGC GGC GAG CAC CCC ATC TTC GTC AAC TCC CCG ACG CTG GAC GCG CCC GGC 1417

G R A L V V R K V P P G Y S I K V F D F 441
GGC CGC GCC CTG GTC GTG CGC AAG GTG CCC CCC GGC TAC TCC ATC AAG GTG TTC GAC TTC 1477

E R S G L Q H A P E P D A A D G P Y D P 461
GAG CGC TCG GGC CTG CAG CAC GCG CCC GAG CCC GAC GCC GCC GAC GGC CCC TAC GAC CCC 1537

N S V R I S F A K G W G P C Y S R Q F I 481
AAC AGC GTC GCG ATC AGC TTC GCC AAG GGC TGG GGG CCC TGC TAC TCC CGG CAG TTC ATC 1597

T S C P C W L E I L L N N P R * 497
ACC TCC TGC CCC TGC TGG CTG GAG ATC CTC CTC AAC AAC CCC AGA TAG 1645

TGGCGGCCCCGCGGGAGGGGCGGGTGGGAGGCCGCGGCCACCGCCACCTGCCGGCCTCGAGAGGGGCCGATGCCCAGA 1724

GACACAGCCCCACGGACAAAACCCCCAGATATCATCTACCTAGATTTAATATAAAGTTTTATATATTATATGAAAAA 1803

AAAAAAAAAAAAAA 1817

FIG.10B